U.S. Application No.: 10/580,438 Inventors: Ettore Elio CAPRELLA et al.

Attorney Docket No.: 09952.0054 Reply to Final Office Action mailed March 16, 2009

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application. Please amend claims 29, 31-37, 39-42, 55, and 56, and cancel claims 30 and 43, as follows:

1-28. (Canceled).

29. (Currently Amended) A method of arranging communication between an

administrator device and an administered device in a network, comprising the steps of:

arranging said communication in the form of a chain of digitally signed

communication items including messages sent from an originator device to a recipient

device, each said message having associated a respective digitally signed receipt;-and

configuring said originator device not to send a new item toward said

recipient device in the absence of a respective digitally signed receipt for a previously

sent item[[.]];

detecting, at said originator device, that a respective digitally signed

receipt item from said recipient device failed to reach the originator device within a given

time period after a message item was issued by said originator device; and

asking said recipient device for a signed statement indicating at least one

of a last message item received and a last message item sent by said recipient device.

30. (Cancelled).

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31. (Currently Amended) The method of claim 29, <u>further comprising the step-</u>

of storing with at least one of said administrator devices and said administered devices,

a history record of communication items exchanged therebetween, said history record

being agreed upon and signed by both said administrator device and said administered

device.

32. (Currently Amended) The method of claim 29, further comprising the step-

of carrying out at said originator device a session closing step mentioning at least one of

a last message item received and a last message item sent by said recipient device.

33. (Currently Amended) The method of claim 29, <u>further comprising the step</u>

of keeping with said originator device an indication of an on-going communication

session as a pending session until a signed receipt item is received from said recipient

device.

34. (Currently Amended) The method of claim 29, further comprising the step-

of inserting in said communication items, payload data and administrative commands

accompanied by respective digital signatures.

35. (Currently Amended) The method of claim 29, further comprising the step-

of causing said recipient device to verify digital signatures for validity.

36. (Currently Amended) The method of claim 29, <u>further comprising the step</u>

of creating digital signatures under the full control of the device issuing such signatures.

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37. (Currently Amended) The method of claim 29, <u>further_comprising-the-step-</u>

of associating secure digital signature evidence with said digitally signed messages and

receipts.

38. (Previously Presented) The method of claim 37, wherein said secure

digital signature evidence is in the form of RSA class digital signatures.

39. (Currently Amended) The method of claim 29, further comprising the

steps of arranging communication between a set of administrator devices and a given

administered device and permitting at least one administrator device in said set to hide

its identity to said administered device.

40. (Currently Amended) The method of claim 39, further comprising the step-

of hiding the identity of said at least one administrator device to said administered

device by using at least one of group signatures or pseudonym digital certificates.

41. (Currently Amended) The method of claim 39, further comprising the step-

of resuming a session interrupted in the absence of a receipt provided by said at least

one administrator hiding its identity to a message sent by said given administered

device, wherein said session is resumed by said at least one administrator hiding its

identity.

42. (Currently Amended) A system comprising an administrator device and

an administered device in a network, said administrator device and administered device

being configured for communication in the form of a chain of digitally signed

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communication items including messages sent from an originator device to a recipient

device, each said message having associated a respective digitally signed receipt, and

wherein said originator device is configured to:

not to send a new item toward said recipient device in the absence of a

respective digitally signed receipt for a previously sent item[[.]];

detect that a respective digitally signed receipt item from said recipient

device failed to reach the originator device within a given time period after a message

item was issued by said originator device; and

ask said recipient device for a signed statement indicating at least one of a

last message item received and a last message item sent by said recipient device.

43. (Cancelled).

44. (Previously Presented) The system of claim 42, further comprising data

items stored with at least one of said administrator device and said administered device,

and comprising a history record of communication items exchanged therebetween, said

history record being agreed upon and signed by both said administrator device and said

administered device.

45. (Previously Presented) The system of claim 42, wherein said originator

device is configured for carrying out a session closing step mentioning at least one of a

last message item received and a last message item sent by said recipient device.

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46. (Previously Presented) The system of claim 42, wherein said originator

device is configured for keeping an indication of an on-going communication session as

a pending session until a signed receipt item is received from said recipient device.

47. (Previously Presented) The system of claim 42, wherein said originator

device is configured for inserting in said communication items payload data and

administrative commands accompanied by respective digital signatures.

48. (Previously Presented) The system of claim 42, wherein said recipient

device is configured for verifying said digital signatures for validity.

49. (Previously Presented) The system of claim 42, comprising means for

creating said digital signatures, said means being assigned acting under the full control

of the device issuing such signatures.

50. (Previously Presented) The system of claim 42, wherein secure digital

signature evidence is associated with said digitally signed messages and receipts.

51. (Previously Presented) The system of claim 50, wherein said secure

digital signature evidence is in the form of RSA class digital signatures.

52. (Previously Presented) The system of claim 42, comprising a set of

administrator devices and a given administered device, wherein at least one

administrator device in said set is configured to hide its identity to said administered

device.

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53. (Previously Presented) The system of claim 52, wherein said at least one

administrator device is configured for hiding its identity to said administered device by

using at least one of group signatures or pseudonym digital certificates.

54. (Previously Presented) The system of claim 52, wherein said at least one

administrator hiding its identity is configured for resuming a session interrupted in the

absence of a receipt provided by said at least one administrator hiding its identity to a

message sent by said given administered device.

55. (Currently Amended) A communication network comprising an

administrator device and an administered device in a network, said administrator device

and administered device being configured for communication in the form of a chain of

digitally signed communication items including messages sent from an originator device

to a recipient device, each said message having associated a respective digitally signed

receipt, and wherein said originator device is configured to:

not to send a new item toward said recipient device in the absence of a

respective digitally signed receipt for a previously sent item[[.]];

detect that a respective digitally signed receipt item from said recipient device

failed to reach the originator device within a given time period after a message item was

issued by said originator device; and

ask said recipient device for a signed statement indicating at least one of a last

message item received and a last message item sent by said recipient device.

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56. (Currently Amended) A computer program product, loadable in the memory of at least one computer, and comprising software code portions capable of performing the steps of a method of arranging communication between an administrator device and an administered device in a network, the method comprising:

arranging said communication in the form of a chain of digitally signed communication items including messages sent from an originator device to a recipient device, each said message having associated a respective digitally signed receipt;—and configuring said originator device not to send a new item toward said recipient device in the absence of a respective digitally signed receipt for a previously sent item[[.]];

detecting, at said originator device, that a respective digitally signed receipt item from said recipient device failed to reach the originator device within a given time period after a message item was issued by said originator device; and

asking said recipient device for a signed statement indicating at least one of a last message item received and a last message item sent by said recipient device.